

**Comprehensive Technical Statement
In Support of
Christian Media, Inc.
Application for New LPFM Station
96.7 MHz, Channel 244L1
Columbus, OH**

Second adjacent waiver requested

Introduction

Christian Media, Inc. proposes a new LPFM station to serve Columbus, OH on 96.7 MHz, channel 244L1.

The proposed site meets all spacing requirements with respect to all other operating facilities, construction permits, allocations, and applications, with the exceptions of WBNS-FM, FCC Facility ID # 54701, and WLWV, FCC Facility ID # 11277. A second adjacent interference waiver is requested. Full details supporting the waiver request are included.

The following table lists all conflicts whose distances fall within 25 km of the required separation¹:

facid	adj	chan	lpclass	rrs	status	call	st	city	kW	da	haat	brg	km	req	Δ
54701	2	246B	B		LIC	WBNS-FM	OH	COLUMBUS	21	N	238	207	7.7	67	-59.3
11277	2	242B	B		LIC	WLWV	OH	COLUMBUS	18	N	229	207	7.7	67	-59.3

Data Sources

Distances were calculated using the FCC method defined in 73.208 of the Commission's Rules.

The facility data used in preparing the application was current as of June 17, 2013. Compliance with all spacing and interference requirements was confirmed as of October 25, 2013.

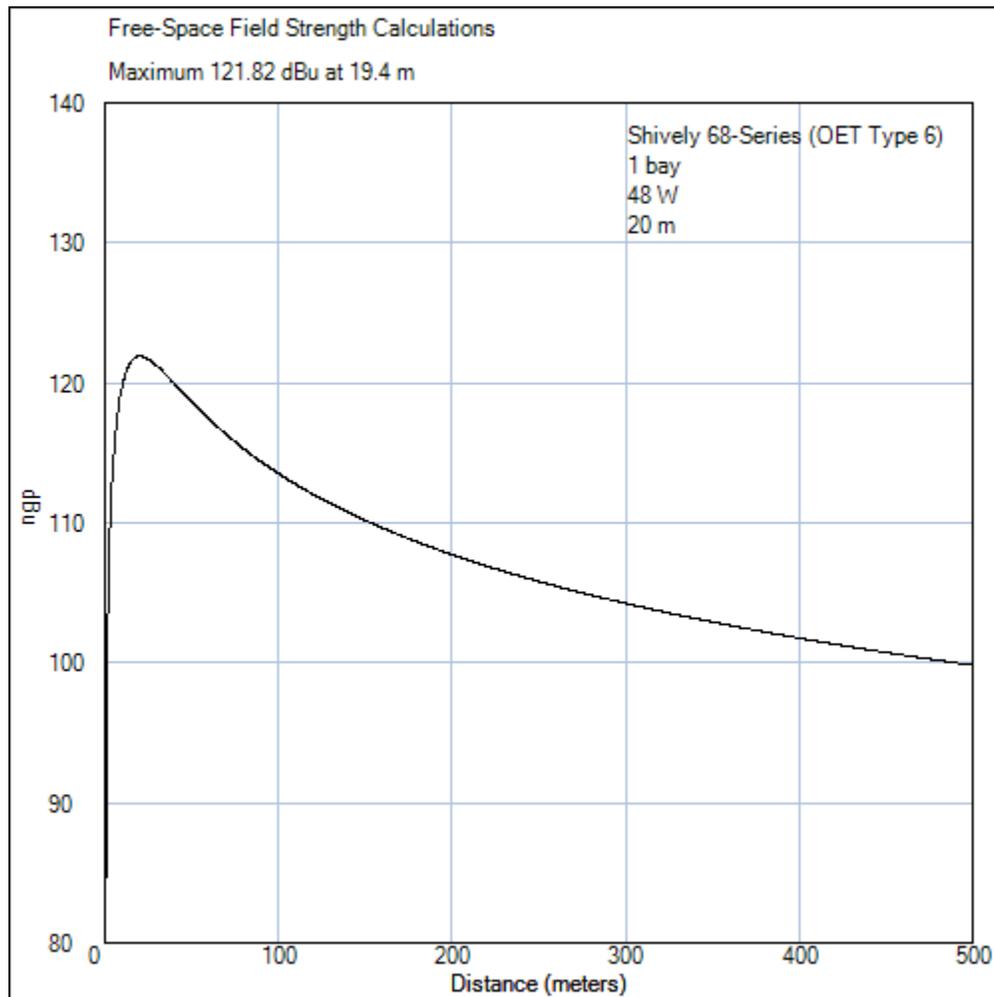
¹ The columns in the table include "lpclass," which is the class of the record as determined in accordance with the note to paragraphs a, b, and c in 73.807; "rrs," which indicates whether the station was listed as carrying a radio reading service on a subcarrier in 2000; "req," which is the separation required by 73.807; and "Δ" which is the margin over that required separation (a negative number here indicates a short spacing).

Second Adjacent Channel Interference Waiver Request

The proposed location is an existing 43 meter tower. The antenna will be mounted at 30 m above ground. The Height Above Average Terrain ("HAAT") is 43 m, and the expected Effective Radiated Power ("ERP") is 46 Watts.

The two short spaced second adjacent stations are WBNS-FM, FCC Facility ID # 54701, and WLVW, FCC Facility ID # 11277. The signals of these stations at the proposed site are 95.48 dBu for WBNS-FM and 94.57 dBu for WLVQ. As the station with the lower signal level, WLVQ is the more critical. 500 m past the site, the WLVQ signal is 93.54 dBu. The allowable signal levels are 134.57 dBu at the site, and 133.54 dBu 500 m beyond the site.

The following graph is based on the Shively 6812B, but any modern antenna will provide similar performance:



The maximum signal 10m above the ground will be less than 122 dBu, which is more than 11 dB below the allowable level.

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527

Main Number: 401-354-2400

<http://www.skywaves.com>

Washington: 202-370-6357

consultants@skywaves.com

The distance to 133.54 dBu with an ERP of 46 W is 10.0 meters. The highest occupiable levels of surrounding buildings are below 10 meters, or 20 m below the antenna. It is clear that interference cannot reach the ground or the occupiable levels of surrounding structures.

Therefore, it is submitted that the proposal will not cause second-adjacent interference.

Tower Information

The proposed location is on an existing 43 m (140') tower. No ASR exists for this tower, and none is required. The TOWAIR determination is attached.

Translator/ Booster Input Interference

There are three translator records within 10 km of the proposed site:

- W294AH, FCC Facility ID # 10906, rebroadcasts WTOH, FCC Facility ID # 73972. WTOH operates on channel 255, which is not adjacent to the proposed channel 244.
- W252AY, FCC Facility ID # 156960, rebroadcasts WCRS-LP, FCC Facility ID # 132329. WCRS-LP operates on channel 271, which is not adjacent to the proposed channel 244.
- W272AT, FCC Facility ID # 72310, rebroadcast WZOH-FM, FCC Facility ID # 72311. WZOH-FM operates on channel 238, which is not adjacent to the proposed channel 244. This translator's license has been cancelled, and it is now listed as DW272AT.

There are no boosters within 50 km of the proposed site.

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527

Main Number: 401-354-2400

<http://www.skywaves.com>

Washington: 202-370-6357

consultants@skywaves.com

Form 318 Tech Box Data

Class	LP100
Channel	244
Coordinates (NAD-27)	40 01 59 N Lat 82 59 38 W Lon
ASR	None, not required. TOWAIR determination attached
Site Elevation AMSL	265 m
Overall Tower Height AGL	43 m
Radiation Center AGL	30 m
Power/height certification	YES
Environmental	YES - Exhibit 11 (This document)

Additional Information

Coordinates (NAD-83)	40 01 58.9 N Lat 82 59 37.7 W Lon
Height above average terrain	43 m (FCC Online HAAT Calculator, 360 radials)
Estimated ERP	46 W-H + 46 W-V
Antenna type	Omnidirectional
Manufacturer / Model	SHI 6812B-1

International

The FM Agreements with Canada and Mexico require evaluation and potential coordination of any proposal within 320 km of the borders.

The distance to the nearest point along the US/Canada border is 184.5 km from the proposed site. Evaluation with respect to Canadian facilities and proposals is required:

Paragraph 4.4 of the February 1991 Working Agreement with Canada, as amended in 2007, provides that LPFM coordination is required only for proposals in which the 34 dBu f(50,10) contour would cross the border.

The maximum extent of the proposed 34 dBu f(50,10) contour is 36.1 km. Since the proposed site is more than 184 km from the border, it is clear that this contour cannot cross the border.

Coordination and notification should not be required.

The distance to the nearest point along the US/Mexico border is 2,015 km. Coordination with Mexico is not required.

Quiet Zones

The proposed site is outside the National Radio Quiet Zone (National Radio Astronomy Observatory Notification Area) in West Virginia.

The proposed site is outside the Arecibo Observatory notification area in Puerto Rico.

The proposed site is not within a 100 km extension of the Table Mountain Radio Receiving Zone in Colorado.

Protected Monitoring Stations

The nearest Protected Monitoring Station is 378 km distant, in Allegan, MI. This is well beyond any potential 80 dBu contour.

Environmental

The antenna will be mounted 30 m above ground on an existing 43 m tower. No construction or excavation will be performed.

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527

Main Number: 401-354-2400

<http://www.skywaves.com>

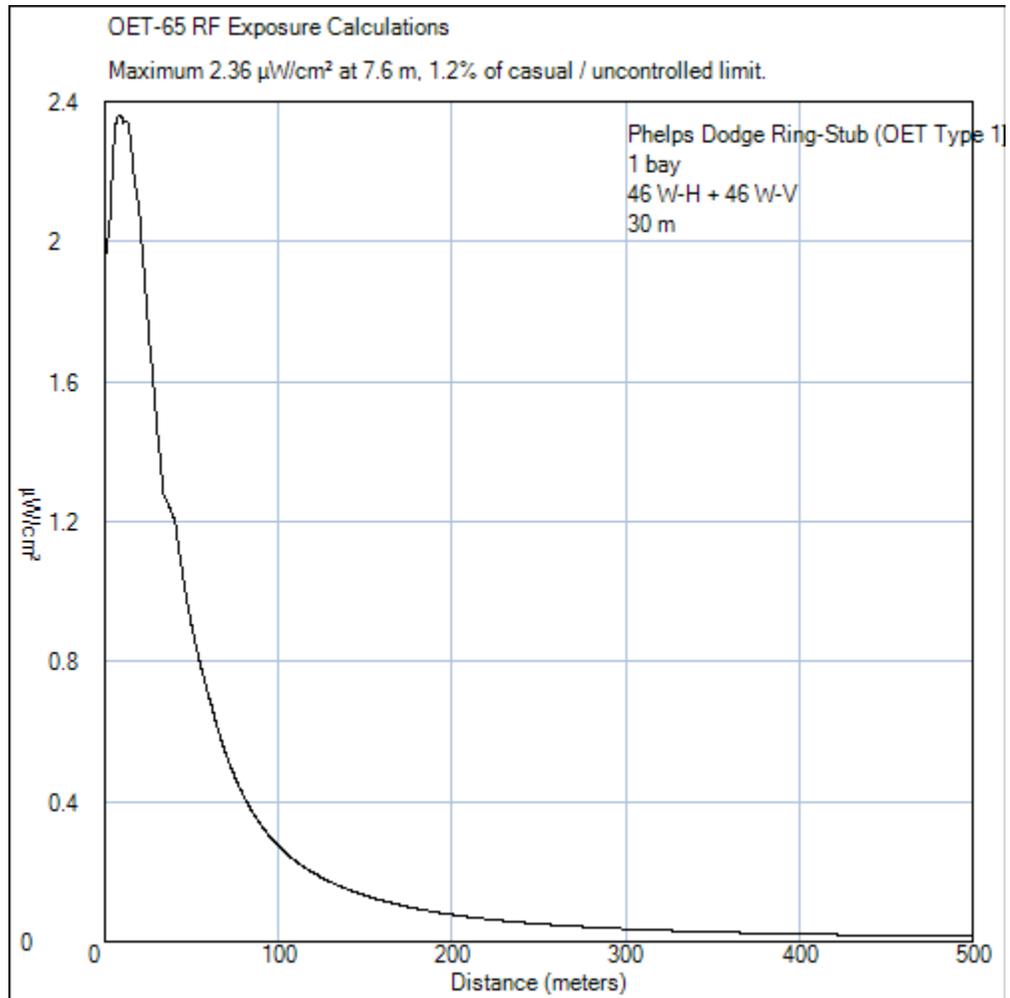
Washington: 202-370-6357

consultants@skywaves.com

RF Exposure

The antenna will be mounted 30 m above ground.

Based on the estimated 46 W ERP, the distance to the 200 $\mu\text{W}/\text{cm}^2$ limit for casual / uncontrolled exposure in the horizontal lobe of the antenna will be 3.9 m.



For the worst case antenna, OET Type 1, the maximum RF exposure using the formula in OET-65 is 2.36 $\mu\text{W}/\text{cm}^2$. This is 1.2% of the limit for casual / uncontrolled exposure.

Any modern antenna will provide far better performance.

-0-

Skywaves Consulting LLC
PO Box 4, Millbury, MA 01527

Main Number: 401-354-2400

<http://www.skywaves.com>

Washington: 202-370-6357

consultants@skywaves.com

TOWAIR Determination Results

A routine check of the coordinates, heights, and structure type you provided indicates that this structure does not require registration.

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7755.63 MTRS (7.75560 KM) AWAY

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	R	40-04-40.00N	083-03-49.00W	OHIO STATE UNIVERSITY	FRANKLIN COLUMBUS, OH	271.1	1525.2

Your Specifications

NAD83 Coordinates

Latitude 40-01-58.9 north
Longitude 082-59-37.7 west

Measurements (Meters)

Overall Structure Height (AGL) 43
Support Structure Height (AGL) 0
Site Elevation (AMSL) 265

Structure Type

LTOWER - Lattice Tower

Tower Construction Notifications

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW